

REMARKS

Claims 1, 3-11, 13-16, 18-20 and 22-36 remain pending in the application.

The Applicants respectfully request that the Examiner reconsider earlier rejections in light of the following amendments and remarks. No new issues are raised nor is further search required as a result of the changes made herein. Entry of the Amendment is respectfully requested.

Claims 1, 3-7, 9-11, 13-16, 19, 20, 22-24 and 31-36 over Miller, Smith and Li

In the Office Action, claims 1, 3-7, 9-11, 13-16, 19, 20, 22-24 and 31-36 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over U.S. Patent No. 5,946,177 to Miller et al. ("Miller"), in view of U.S. Patent No. 5,903,419 to Smith ("Smith"), and further in view of U.S. Patent No. 6,639,771 to Li ("Li"). The Applicants respectfully traverse the rejection.

Claims 1, 3-7, 9-11, 13-16, 19, 20, 22-24 and 31-36 recite an EOS event that is detected by a voltage threshold detector or an EOS detector comprising a plurality of programmable resistive elements programmable by **selective activation of at least one individual programmable resistive element**.

The Examiner acknowledges that "Miller et al. does not disclose the voltage threshold detector (325) comprising a programmable element to detect an electrical over stress event." (see Office Action, page 3) The Examiner relies on Smith to allegedly make up for the acknowledged deficiencies in Miller. The Applicants respectfully disagree.

The Examiner alleges that "Smith in (Figs. 1-2) discloses an ESD/EOS protection circuit (12) comprising a voltage threshold detector (200) comprising a programmable element (abstract, II. 1-7; col. 2, II. 60-67; col. 3, II. 65 thru col. 4, II. 1-5)." (see Office Action, page 3). Smith teaches an electrostatic discharge (ESD) circuit that provides robust protection to an input/output driver circuit (see Abstract). A trigger point of a MOSFET is "programmable by increasing or decreasing the number of individual diodes in a diode string." (see Smith, Abstract; col. 3, line 65-col. 4, line 1)

Smith teaches programmability. However, Smith's programmability is achieved "by increasing or decreasing the number of individual diodes in a diode string." Smith's programmability requires forethought in that a trigger point must be selected before construction of his disclosed circuit. The number of individual diodes in Smith's diode string "increased or decreased" to achieve a desired trigger point. Smith fails to teach Applicants' claimed programmability that, e.g., can be achieved after construction of a circuit, by **selective activation of at least one individual programmable resistive element**, as recited by claims 1, 3-7, 9-11, 13-16, 19, 20, 22-24 and 31-36.

The Examiner acknowledges that "Miller et al. in view of Smith does not explicitly disclose said electrical over stress event occurring during a difference in an order in which connections are made between contacts of a powered device and contacts of an unpowered device as they are connected or disconnected." (see Office Action, page 4) The Examiner relies on Li to allegedly make up for the acknowledged deficiencies in Miller and Smith to arrive at the claimed features. The Applicants respectfully disagree.

Li appears to disclose a system for ESD protection of an integrated circuit chip by an EOS protection circuit using external components (see Abstract). An external MOSFET 30 and capacitor 34 operate together to prevent damage to an internal diode 20 during ESD conditions, while allowing protection for EOS conditions (see Li, col. 3, line 48-col. 4, line 67).

Li discloses a circuit arrangement that allows for protection from both ESD and EOS conditions. However, Li fails to disclose, teach or suggest use of any type of programmable elements, much less a voltage threshold detector or an EOS detector comprising a plurality of programmable resistive elements, much less that are programmable by **selective activation of at least one individual programmable resistive element**, as recited by claims 1, 3-7, 9-11, 13-16, 19, 20, 22-24 and 31-36.

Miller, Smith and Li, either alone or in combination, fail to disclose, teach or suggest an EOS event that is detected by a voltage threshold detector or an EOS detector comprising a plurality of programmable resistive elements

programmable by **selective activation of individual resistive elements**, as recited by claims 1, 3-7, 9-11, 13-16, 19, 20, 22-24 and 31-36.

Accordingly, for at least all the above reasons, claims 1, 3-7, 9-11, 13-16, 19, 20, 22-24 and 31-36 are patentable over the prior art of record. It is therefore respectfully requested that the rejection of these claims be withdrawn.

Claims 8 and 25-30 over Miller, Smith, Li and Whitney

In the Office Action, claims 8 and 25-30 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Miller, Smith, Li, and further in view of U.S. Patent Application Publication No. 2002/0024791 to Whitney et al. ("Whitney"). The Applicants respectfully traverse the rejection.

Claims 8 and 25-30 recite an EOS event that is detected by a voltage threshold detector or an EOS detector comprising a plurality of programmable resistive elements programmable by **selective activation of at least one individual programmable resistive element**.

Whitney appears to disclose a system and method of protecting devices from ESD events and over-current conditions (see paragraph [0002]). A varistor 302 is shown as attached between a power source V_{in} and GND (see Whitney, Fig. 11, paragraph [0091]).

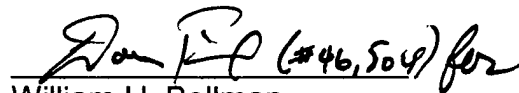
Thus, Whitney discloses a circuit to protect from ESD events. However, Whitney, like Miller, Smith and Li, fails to disclose, teach or suggest use of any type of programmable elements, much less a voltage threshold detector or an EOS detector comprising a plurality of programmable resistive elements, much less that are programmable by **selective activation of at least one individual programmable resistive element**, as recited by claims 8 and 25-30.

Accordingly, for at least all the above reasons, claims 8 and 25-30 are patentable over the prior art of record. It is therefore respectfully requested that the rejection of these claims be withdrawn.

Conclusion

All rejections having been addressed, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Dan F. Bollman (#46,504) for".

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